Type. Mexico: Baja California, Mesa del Potrero de San Javier (northeast of Mission San Javier), *Carter 4993* (MEX, UC-holotype), Sept. 20, 1965.

Other collections. Sierra de la Giganta, *Carter 3137* (UC), *Carter 4478* (UC), *Carter 5289* (UC). These and the type came from elevations between 500 and 700 m. North of Comondu, *Hammerly 179* (DS, UC).

Proboscidea gracillima belongs to section *Proboscidea* (=Sect. *Eu-proboscidea* Stapf) (Stapf, 1895), characterized by annual habit and purplish, reddish, pinkish, or whitish flowers. It is most similar to *P. parviflora* vegetatively and keys to that species in the most recent revision of the genus (Van Eseltine, 1929). In internal throat ornamentation and in inflorescence, however, it shows some affinity to *P. sinaloensis* Van Eselt. All three species have small calyces and may be distinguished by leaf shape, inflorescence characteristics, corolla size and color, and filament pubescence, as well as by geographical distribution (table 1).

Northern Arizona University, Flagstaff

Literature Cited

Stapf, O. 1895. Martyniaceae. *In* Engler & Prantl, Naturlichen Pflanzenfamilien 4(3b):265–269.

Van Eseltine, G. P. H. 1929. A preliminary revision of the unicorn plants (Martyniaceae). New York Agric. Exp. Sta. Bull. 129.

A NEW ASTRAGALUS (FABACEAE) FROM NEVADA

R. C. Barneby

Astragalus phoenix Barneby, sp. nov., in sect. *Argophyllis* juxta *A. newberryi* Gray a quo habitu multicipiti late pulviniformi nec simplicius caespitoso, pube crasse tomentoso-pilosa candidissima, racemisque brevissime pedunculatis 1—2 (nec 3—8)-floris absimilis inserenda.

Diu perennis subacaulescens e radice perpendiculari valida, caudicis iteratim ramosi ramulis superne stipulis petiolisque marcidis crebre obsitis columnaribus, demum pulvinos hemisphaericos vel depresse-convexos ad 4—5 dm usque latos efformantibus, tota pilis patulis rigidiusculis (minime gossypinis) ad 0.8—1.3 mm longis piloso-tomentosa cana; stipulae crebre imbricatae ovatae acutae vel breviter acuminatae 2—3 mm longae, extus tomentosae, intus glabrae venosae; foliorum 1.5—3.5(4) cm longorum petiolus rigidus marcescens, foliola 1—4-, saepissime 2 vel 3-juga ovata vel obovata (2)3—6(7) mm longa secus rachin 2—10(15) mm longum conferta, mox decidua; pedunculus utriusque ramuli unicus erectus brevissime 1—2-florus 2—5 mm longus stipulis fulcrantibus ad maximum duplo longiribus; calycis laxe pilosuli 12.5—

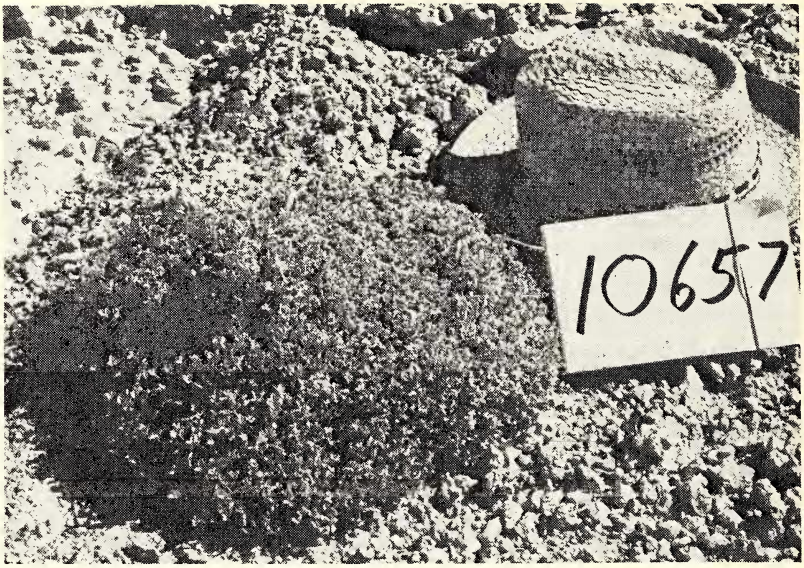

FIG. 1. A mature plant of *Astragalus phoenix,* which furnished the type specimen. The cushion of foliage is approximately 3.2 dm in diameter. Photograph by A. Cronquist.

15 mm longi tubus cylindricus subtumescens 9.5—11 mm longus, 4—4.6 mm diametro, dentes subulati 3—4 mm longi; petala pallide lilacina, vexillo pallidori, omnia sicca straminea, quoad formam illis *A. newberryi* simillima; vexillum 24—25 mm longum, 9.5—11 mm latum; alae ± 20.5 mm longae; carinae 19—21 mm longae unguiculi ± 11.5 mm, laminae lunatim semi-ellipticae 8—8.5 mm longae obtusae; antherae 0.7—0.8 mm longae; legumen eum *A. newberryi* exacte simulans, ovoideo-acuminatum ultra medium incurvum ± 1.8 cm longum, 1 cm diametro, valvulis coriaceis simul tomentulosis ac pilosis, pilis brevioribus densis longioribus patulis nitidis ad 2 mm usque longis; ovula ± 32.

Type. Nevada: Nye Co., on barren, alkaline, white clay slopes overlooking a dry wash at the east end of Ash Meadows, elevation 2300 feet, Township 18 S, Range 50 E, section 1 or 12, *Cronquist 10657* (BRY, NY-holotype, RSA, UTC), April 21, 1966.

Additional specimens. Nevada: Nye Co., with *Enceliopsis nudicaulis* and *Distichlis stricta,* on dry, hard, alkaline flats, Ash Meadows between Big Spring and Point of Rocks, elevation 2280 feet, *Roos & Roos 6143* (NY), June 13, 1954; Ash Meadows, *Purpus 6034* (POM). The three localities are probably all close together, possibly all the same, lying in the southern angle of Nye Co. close to the California boundary.

The Ash Meadows Milk-vetch, *A. phoenix,* was first collected, in fragmentary specimens, as long ago as the summer of 1898 by Carl

Anton Purpus, who crossed Pahrump Valley on his adventurous journey across the then pathless Mohave Desert into the botanically unknown mountains of southern Nevada. More complete material was gathered by Roos and Roos in 1954, but again too late in the year (mid-June) to show more than withered flowers and dehiscent pods. I have already referred to theses two collections (Barneby, 1964) as representing a species related to *A. newberryi* Gray but probably undescribed. The fine flowering specimens now before me, complemented by field-notes and the photograph reproduced herewith, confirm this conjecture.

Detached from the plant, the individual flower and pod of *A. phoenix* (born of ashes) cannot be distinguished from those of typical large-flowered *A. newberryi*. The average mature plant of the latter consists of some one to five, exceptionally a dozen scarcely elongating rosettes of leaves gathered into a tuft sessile or nearly so on the root-crown; if caudex-branches develop, they remain short, always shorter than the longest leaves, and are simple or little ramified. The pubescence of the foliage is variable in quality and orientation, but the young, newly expanded leaves are always silvery-silky with shining hairs. The flowers are only exceptionally less than three to the raceme and are elevated on a scapelike peduncle seldom less than 1 cm long. As the flowers fade the peduncle bends outward, and the pods ripen in contact with the ground. By contrast the mature plant of *A. phoenix* forms a dense hemisphere or depressed mound of foliage that reaches a diameter of 4—5 dm and is composed of several score, perhaps over 100 rosettes of leaves. The caudex is repeatedly branched, becoming several times longer than the longest leaf. Deep within the cushion, impacted with white clay, the older branches are brown and woody, clothed in a flaking bark, but distally become columnar from the thatch of tomentose stipules and stout persistent leaf-stalks. Already at early anthesis the pubescence is composed of relatively coarse, spreading hairs, the general effect of which is white-tomentose rather than silky. The flowers, pink-purple with a paler banner, followed by the pods, sit apparently stemless, one or two together, among the leaves. The permanently erect peduncle is at most 5 mm long and often scarcely surpasses the subtending stipules.

It seems probable that *A. phoenix* is derived by specialization from *A. newberryi*. The species is adapted and very likely confined to a peculiar habitat of calcareous flats and knolls on the valley floor, a habitat that provides a home for some other pulvinate species of the Nevadan deserts such as *Lepidium nanum* Wats., *Eriogonum shockleyi* Wats., as well as for some pulvinate ecotypes of ordinarily cespitose *Astragalus calycosus* Torr. ex Wats. and *Oxytropis oreophila* Gray. The elevation of Ash Meadows is near 2280 ft (685 m). In the mountains of the eastern Mohave Desert and the Death Valley region *A. newberryi* is not uncommon on limestone formations in the pinyon-belt, but has not been collected and cannot be expected below an elevation of about 5000 ft

(1500 m). Three other densely pubescent *Argophylli* occur near *A. phoenix*: *A. coccineus* Brandg., *A. funereus* Jones, and *A. purshii* var. *tinctus* Jones. The first of these has in common with *A. phoenix* persistent petioles and coarse pubescence, but has more numerous and longer red flowers elevated on long peduncles. The other two have finer, cottony pubescence, soft petioles, and three or more flowers borne together, again on developed scapes. The pod of the nearly sympatric *A. funerus* is much larger, 3—5 not 2 cm long; that of *A. purshii* var. *tinctus* is in the same size-range as that of *A. phoenix,* but the whole appearance of the plant is quite different.

New York Botanical Garden, New York

Literature Cited

Barneby, R. C. 1964. Atlas of North American Astragalus. Mem. New York Bot. Gard. 13:1–1188.

NOTES ON LOEFLINGIA (CAROPHYLLACEAE)

R. C. Barneby and Ernest C. Twisselmann

Introduction

The small caryophyllaceous genus *Loeflingia* is of interest to plant geographers because of its bicentric dispersal. In the Old World its center of abundance coincides with the western end of the Mediterranean basin, with greatest concentration of variability and of numbers in the southern and eastern quarters of the Iberian Peninsula and in northern Morocco and Algeria. In Africa it extends south into the Sahara, but from the Mediterranean coast eastward from the longitude of Malta there are only a few scattered records of the common species, *L. hispanica* L. In the Old World, *Loeflingia* is clearly a west-Mediterranean type. The range of the genus in North America is less extensive but more discontinuous. Representatives occupy four well defined floristic provinces, one east and three west of the Continental Divide: 1, east-central Texas north, interruptedly, to western Nebraska; 2) floor of the Sonoran Desert in southern Arizona and northern Sonora; 3, the Basin and Range sagebrush deserts of northeastern California, southeastern Oregon, and southwestern Wyoming; and 4, cismontane California southward from Santa Cruz and Stanislaus counties into northern Baja California. Wherever they occur, the loeflingias are associated with light, often disturbed or wind-modified, commonly sandy soils, and show marked tolerance or even preference for genuine dune habitats. They appear intolerant of competition and tend to occupy microhabitats in which most plants have difficulty in taking foothold.

It was early suggested by Hooker (1840) and by Brandegee (1890) that *Loeflingia* might not be native to America, but this view is untenable. Variation in our plants is plainly correlated with familiar dis-